



## **SOUTH CAROLINA RABBIT HUNTER SURVEY 2013-2014**

The Small Game Project, South Carolina Department of Natural Resources (DNR), implemented the South Carolina Rabbit Hunter Survey in the 1991-92 season. The survey was designed to provide reliable, quantitative information about rabbit numbers and rabbit hunter success across the state.

This report presents information from the latest survey and compares data collected for the past 10 years. Information is used to identify trends in rabbit populations and rabbit hunting activities in South Carolina.

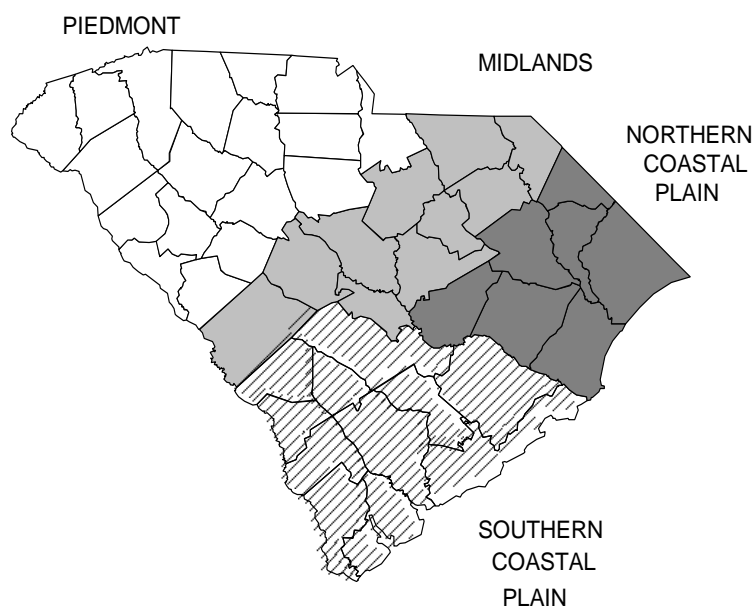
### **METHODS**

Individuals contacted for this rabbit hunter survey included respondents to last year's survey and persons who called, emailed, or wrote requesting a survey form this past year. Potential survey cooperators are also solicited through public presentations and the DNR website.

Cooperators were provided with data sheets, instructions and self-addressed stamped envelopes prior to the start of the 2013-14 rabbit hunting season. Cooperators were asked to keep accurate records of their hunting activities and to provide the following information about each individual hunt: date and county of hunt, number of hunters, number of hours hunted, number of rabbits jumped, number of rabbits harvested, and quail coveys and woodcock flushed. Additional information requested includes the number and species of rabbits bagged during the season along with comments on dog performance and season quality. Information on food habits, diseases and general comments was also requested.

At the end of the hunting season, a reminder card was sent to each individual asking that the survey form be returned. A period of 60 days was allowed for hunters to respond. Data were analyzed by county, geographic region and statewide.

South Carolina is divided into four broad geographic regions (Fig. 1) based on habitat. The "Piedmont" encompasses about 1/3 of the state and includes the mountain and foothills area. The "Midlands" extends on a broad northeast/southwest axis across the upper coastal plain of the state. The "Pee Dee" region is located on the northern lower coastal plain and the "Low Country" is situated in the southern lower coastal plain.



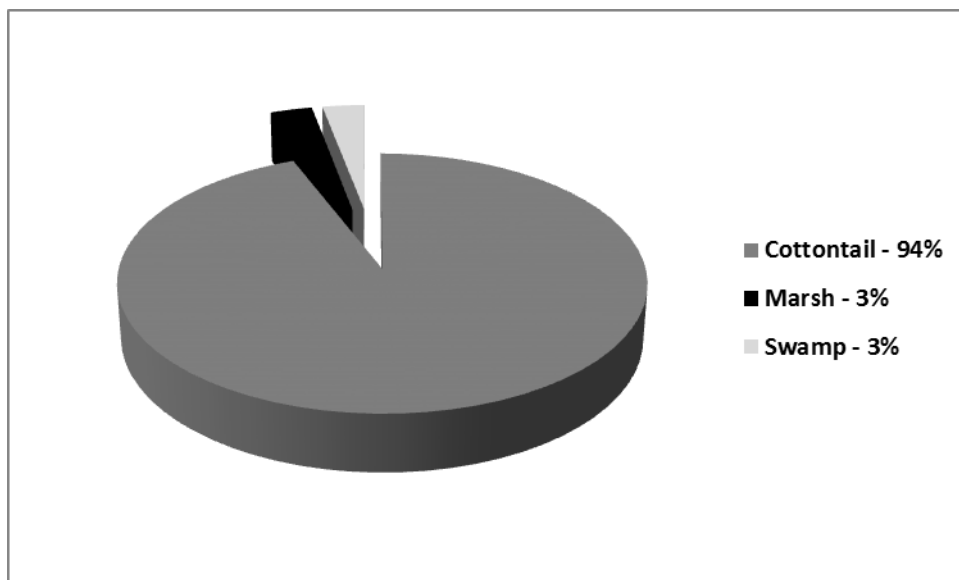
**Figure 1. Physiographic regions of South Carolina, South Carolina Rabbit Hunter Survey.**

## **RESULTS AND DISCUSSION**

### **STATEWIDE**

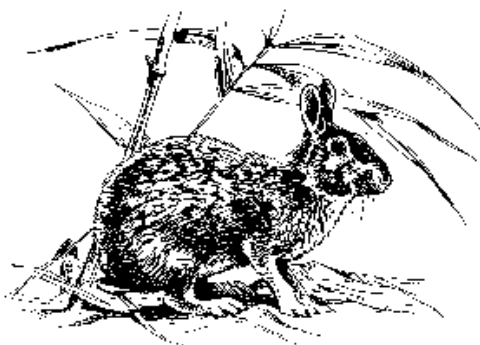
A total of 16 individuals responded to the survey. Survey cooperators recorded 283 hunts and logged 1,118 hours in the field. Hunting parties averaged just fewer than four individuals per trip and the average hunt length was 3.95 hours. Based on this information, survey cooperators and their companions expended a minimum of 14.5 man-hours per hunt (4,148 total hours) in pursuit of rabbits during the 2013-14 season.

Hunting parties jumped an average of 1.05 rabbits per hour and harvested 0.63 rabbits per hour. Based on our survey, 60% of rabbits jumped were harvested. Cottontails (*Sylvilagus floridanus*) were the predominant species reported harvested followed by marsh rabbits (*S. palustris*) and swamp rabbits (*S. aquaticus*). (Fig. 2).

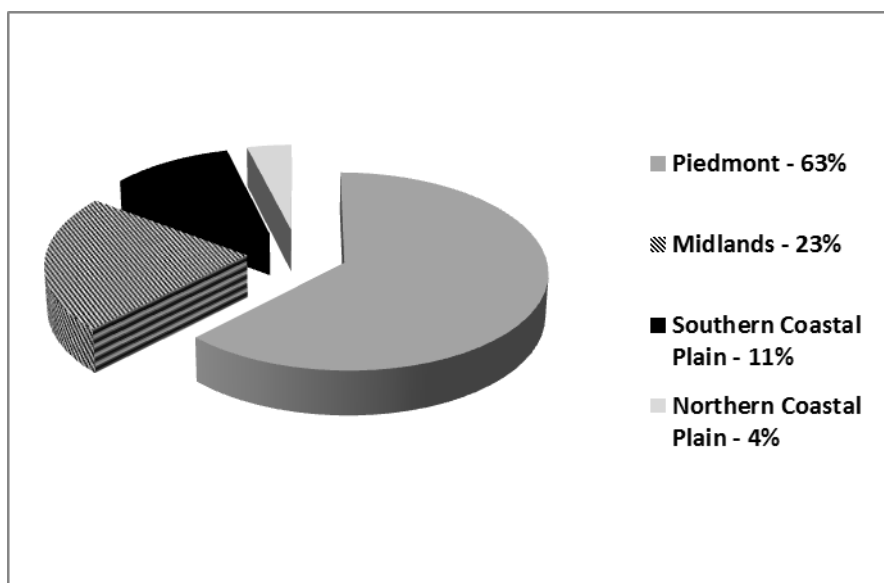


**Figure 2. Reported species composition of rabbits harvested by cooperators, South Carolina Rabbit Hunter Survey, 2013-14.**

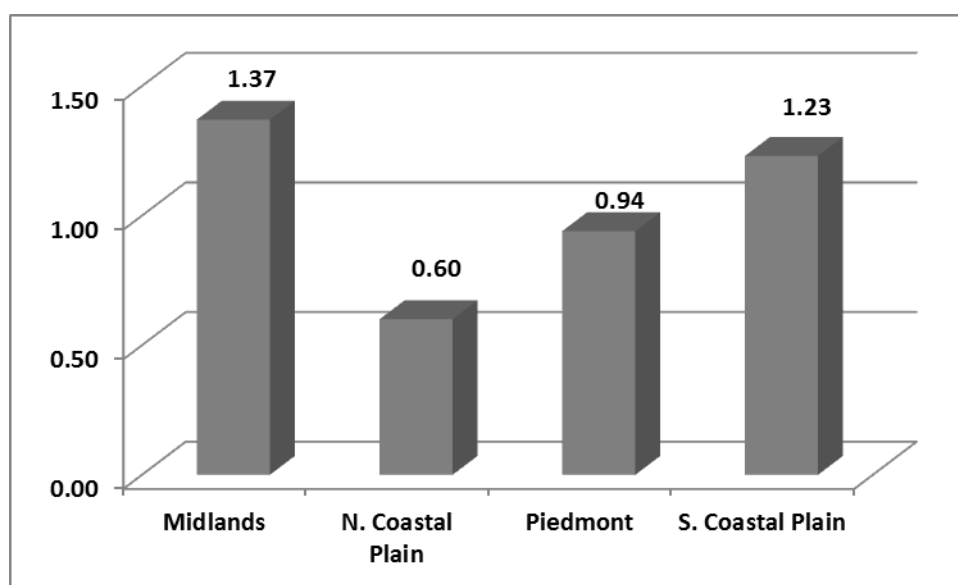
Historically, swamp rabbits have been documented only in the Savannah River drainage of Oconee, Pickens and Anderson Counties (Webster et. al. 1985, Platt and Bunch 2000). It is likely that some marsh rabbits are mistakenly identified as swamp rabbits. Cooperators are provided with a fact sheet describing how to distinguish the three species of rabbits.



A majority (63%) of reported rabbit hunts in South Carolina occurred in the Piedmont Region (177 hunts) and the least amount of activity occurred in the Northern Coastal Plain at 4% (12 hunts) (Fig. 3). The highest rabbit-jumping rate (1.37) was recorded in the Midlands hunts. The Southern Coastal Plain, Piedmont and Northern Coastal Plain had 1.23, 0.94, and 0.60 rabbits jumped per hour, respectively (Fig. 4).



**Figure 3. Percentage of rabbit hunts by region, South Carolina Rabbit Hunter Survey, 2013-14.**



**Figure 4. Average number of rabbits jumped per hour by region, South Carolina Rabbit Hunter Survey, 2013-14.**

## COUNTY RESULTS

Survey cooperators reported rabbit hunting activity from 22 of the 46 counties in South Carolina during the 2013-14 season. Abbeville County led the state in hunter effort (hours hunted) with hunters logging 223 hours in the field during 57 hunts. Following Abbeville in hunter effort were Lee (163.5 hours, 48 hunts) and Hampton (154 hours, 30 hunts) Counties.

Rabbits jumped per hour for the four counties with more than 25 hunts reported were: Abbeville (0.88 for 57 hunts), Lee (1.36 for 48 hunts), Hampton (1.32 for 30 hunts), and Anderson (1.05 for 28 hunts). Jumping rates may have variables affecting them such as shooting (or not shooting) on the initial jump, cover thickness delaying a killing shot during the chase, and letting the dogs run for exercise or training. However, jumping rates do give an index to the relative abundance of rabbits in a given area.

## COMPARISON TO 2012-13 SURVEY

Sixteen hunters reported their hunting results and of these two did not hunt this season. Number of hunts (283) recorded by all hunting parties decreased from 412 with a total of 1,118 hours afield. Average hunt length decreased slightly to 3.95 hours. The minimum number of man-hours expended by rabbit hunters and their companions decreased from 6,661 to 4,332.

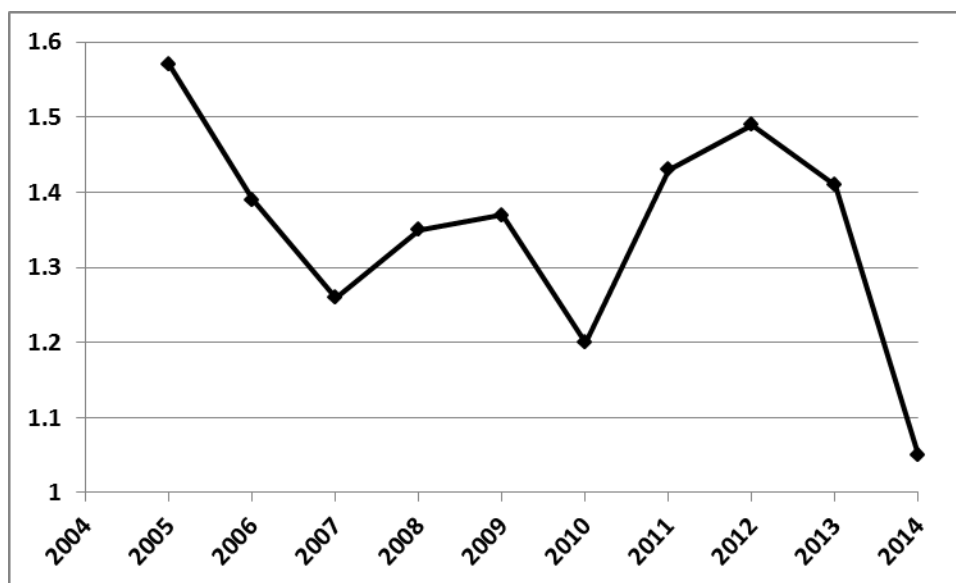
The number of counties reporting rabbit hunting activity declined from 27 to 22 for this past season. In 2013-14 only Abbeville, Lee, Hampton and Anderson counties had at least 25 hunts.

Number of rabbits jumped per hour decreased substantially from 1.41 in 2012-13 to 1.05 in 2013-14. Rabbits harvested per hour also decreased from 0.77 to 0.63. Table 3 and Figure 5 summarize the data collected for the past 10 years of the survey and Figure 5 shows the trend in rabbits jumped per hour. The number of rabbits jumped per hour fluctuates annually but has remained relatively stable over the past 10 years. Due to the relatively small sample sizes of cooperators and hunts, factors other than rabbit abundance can contribute significantly to changes in the rabbits jumped per hour index.

Statewide, quail flushes were the same as the previous year at 0.02 coveys per hour and the number of coveys flushed decreased from 38 in 2012-13 to 24 in 2013-14. Woodcock flushed per hour increased from 0.07 to 0.08 and the number of woodcock flushed decreased from 121 to 89 for 2013-14. This was the 18th year data were collected on number of woodcocks flushed.

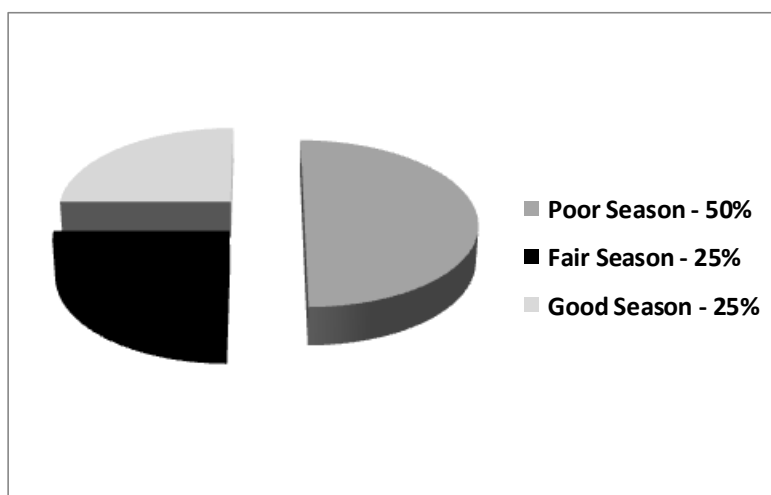
**Table 3. Statewide results, South Carolina Rabbit Hunter Survey, 2005-2014.**

YEAR OF SURVEY	RABBITS JUMPED PER HOUR	RABBITS HARVESTED PER HOUR	QUAIL COVEYS FLUSHED PER HOUR
2004-05	1.57	0.98	0.05
2005-06	1.39	0.84	0.04
2006-07	1.26	0.77	0.03
2007-08	1.35	0.83	0.02
2008-09	1.37	0.78	0.04
2009-10	1.20	0.70	0.03
2010-11	1.43	0.77	0.03
2011-12	1.49	0.92	0.04
2012-13	1.41	0.77	0.02
2013-14	1.05	0.63	0.02

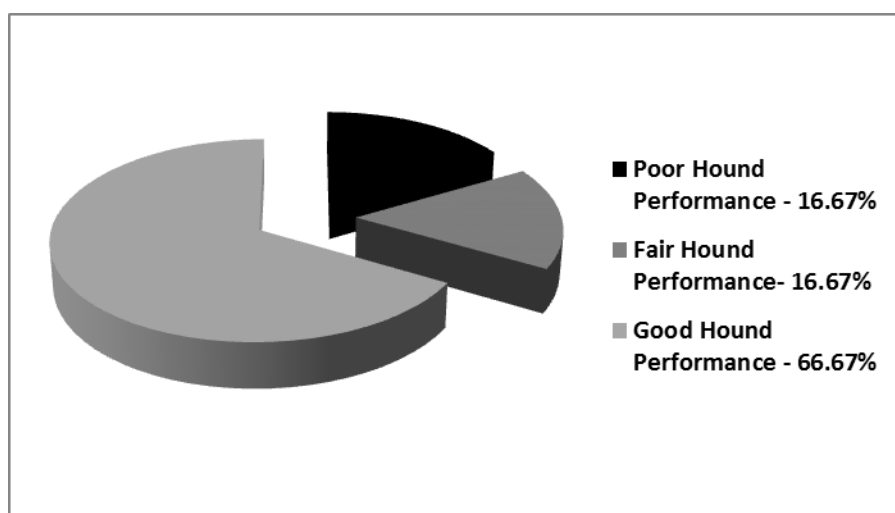
**Figure 5. Rabbits jumped per hour, South Carolina Rabbit Hunter Survey, 2005-14.**

## COOPERATOR COMMENTS

Eight hunters provided a rating for the 2013-14 rabbit-hunting season. Of these, only a quarter (2) rated the season as “good” (Fig. 6). Six hunters provided ratings for their dog performance with two-thirds rated as “good” (Fig. 7).



**Figure 6. Rating of season quality by cooperators, South Carolina Rabbit Hunter Survey, 2013-14**



**Figure 7. Rating of hound performance by cooperators, South Carolina Rabbit Hunter Survey, 2013-14**

Cooperators reported lack of quality rabbit habitat on public lands and restricted access on private lands leased by deer hunting clubs as ongoing negative issues. In addition, coyotes appear to be causing some concern among cooperators.

When used as an index of abundance, the rabbit jumping rate for the 2013-14 rabbit season would indicate a decrease in population from the previous year. However, numerous factors, including weather and dog performance, also have significant impacts on the rabbit jump rate. As in all wildlife species, rabbit populations are directly linked to the quantity and quality of available habitat.

## **SUMMARY**

The 2013-14 Rabbit Hunter Survey marked the 23rd year of building a database on rabbit populations and rabbit hunter success in South Carolina. Plans are to continue this survey during the 2014-2015 season. Additional efforts will be made to increase cooperator response as well as reporting accuracy.

If you are aware of someone who hunts rabbits but does not participate in this survey, please encourage them to do so. Potential cooperators should contact the DNR Small Game Project at 803-734-3609 or [castinep@dnr.sc.gov](mailto:castinep@dnr.sc.gov).

**A reminder for next year: Data cannot be entered without hunter name and address or if all hunts are submitted as one entry.**

## **LITERATURE CITED**

Webster, W. D., J. F. Parnell, Jr. and W. C. Biggs, Jr. 1985. Mammals of the Carolinas, Virginia and Maryland. The University of North Carolina Press.

Platt, Steven G., and Mary Bunch. 2000. Distribution and Status of the Swamp Rabbit in South Carolina. Proc Annual Conference, Southeast Association Fish and Wildlife Agencies 54:407-413.